

Appl No. 10/781,298
Amdt. Dated August 9, 2006
Reply to Office Action of May 9, 2006

Attorney Docket No. 81863.0027
Customer No.: 26021

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original): A composite structure comprising:

an elongate core material of a sintered diamond comprising 80% by volume or more diamond particles of a mean particle size not larger than 3.5 μm , and an iron group metal binding the diamond particles; and

a shell layer that covers the circumference of said core material and comprises a sintered alloy of at least one kind of hard particles selected from among carbide, nitride and carbonitride of at least one metal element selected from the group of 4a, 5a and 6a group metals of the Periodic Table and diamond particles of a mean particle size not larger than 5 μm , and an iron group metal binding the hard particles and diamond particles,

wherein content of said diamond particles included in said shell layer is from 5 to 45% by volume.

2. (Original): The composite structure according to claim 1, wherein a ratio w/D_1 of a width "w" of a region having a low concentration of iron group metal in said core material in said interface with said shell layer to the mean diameter " D_1 " of said core material is 0.2 or less.

3. (Original): The composite structure according to claim 1, wherein a ratio ds_1/ds_2 of the mean particle size ds_1 of the diamond particles in said shell layer to the mean particle size ds_2 of the hard particles included in said shell layer is in a range from 0.4 to 3.0.

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4. (Original): The composite structure according to claim 1, wherein a ratio D_2/D_1 of the mean thickness D_2 of said shell layer to the mean diameter D_1 of said core material is in a range from 0.01 to 0.5.

5. (Original): A multiple filament type composite structure comprising a plurality of composite structures of claim 1, which are bundled and bonded.

6. (Original): A sheet-like composite structure comprising a plurality of composite structures of claim 1, which are arranged and bonded in a sheet-like configuration.

7. (Original): A laminated composite structure comprising a plurality of sheet-like composite structures of claim 6, which are stacked.

8. (Original): The laminated composite structure according to claim 7 wherein the sheet-like composite structures are alternately stacked in different directions.

9. (Original): The composite structure according to claim 1 or 6 that is used as a cutting tool.